

PATENT
Attorney Docket No. UCSF-08831

AMENDMENTS TO THE CLAIMS

1-122. (canceled)

123. (new) A method for purifying a carboxylated glycan, said method comprising:

a) providing:

- i) a molecule comprising a carboxylated glycan;
- ii) biotinylated diamino pyridine (BAP); and
- iii) an exoglycosidase;

b) conjugating said molecule to said BAP to produce a BAP-glycan conjugate;

c) treating said BAP-glycan conjugate with said exoglycosidase to produce a first treated BAP-glycan conjugate comprising a first anionic BAP-glycan conjugate having from 1 to 2 negative charges per molecule; and

d) isolating said first anionic BAP-glycan conjugate, thereby purifying a carboxylated glycan.

124. (new) The method of Claim 123, further comprising the steps of:

e) treating said first anionic BAP-glycan conjugate produced in step c) or step d) with an exoglycosidase to produce a second anionic treated BAP-glycan conjugate comprising a second anionic BAP-glycan conjugate having from 1 to 2 negative charges per molecule; and

f) isolating said second anionic BAP-glycan conjugate, thereby purifying a carboxylated glycan.

125. (new) The method of Claim 124, further comprising repeating steps e) and f) from 1 to 10 times.

126. (new) The method of Claim 123, wherein said isolating comprises fractionating by ion exchange chromatography.

127. (new) A carboxylated glycan purified by the method of Claim 123.

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128. (new) The carboxylated glycan of Claim 127, wherein said molecule comprising said carboxylated glycan is a glycoprotein or polysaccharide.

129. (new) The carboxylated glycan of Claim 128, wherein said glycoprotein is a receptor for advanced glycation end products (RAGE).

130. (new) A method for purifying a carboxylated glycan, said method comprising:

- a) providing a molecule comprising a carboxylated glycan;
- b) isolating from said molecule a first anionic glycan containing from 1 to 4 negative charges; and
- c) desialylating said isolated first anionic glycan to produce a desialylated anionic glycan containing from 1 to 4 negative charges, thereby purifying a carboxylated glycan.

131. (new) The method of Claim 130, further comprising d) isolating from said first desialylated anionic glycan a second anionic glycan containing from 1 to 4 negative charges, thereby purifying a carboxylated glycan.

132. (new) The method of Claim 130, further comprising prior to step a) the step of treating said molecule with a proteinase enzyme.

133. (new) A carboxylated glycan purified by the method of Claim 130.

134. (new) The carboxylated glycan of Claim 133, wherein said molecule comprising said carboxylated glycan is a glycoprotein or polysaccharide.

135. (new) A method for identifying a test agent as reducing specific binding of a polypeptide to a carboxylated glycan, comprising:

- a) providing:
 - i) a carboxylated glycan purified by the method of Claim 123;
 - ii) an antibody that specifically binds to said carboxylated glycan; and
 - iii) a test agent;

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b) contacting said purified carboxylated glycan, said antibody, and said test agent; and
c) detecting a reduction in the level of binding of said antibody to said carboxylated glycan in the presence of said test agent compared to in the absence of said test agent, thereby identifying said test agent as reducing specific binding of a polypeptide to a carboxylated glycan.

136. (new) The method of Claim 135, further comprising d) identifying said test agent as reducing inflammation or cancer.

137. (new) The method of Claim 135, wherein said carboxylated glycan is attached to a solid surface.

138. (new) The method of Claim 135, wherein said molecule comprising said carboxylated glycan is a glycoprotein or polysaccharide.

139. (new) The method of Claim 138, wherein said glycoprotein is a receptor for advanced glycation end products (RAGE).

140. (new) The method of Claim 135, wherein said antibody is monoclonal.

141. (new) The method of Claim 140, wherein said monoclonal antibody is an IgG antibody.

142. (new) The method of Claim 141, wherein said monoclonal IgG antibody is mAbEE4.1, mAbGB3.1, mAbB2.6, or mAbEH2.7.

143. (new) The method of Claim 141, wherein said monoclonal IgG antibody is mAbGB3.1.

144. (new) An antibody specific for a carboxylated glycan purified by the method of Claim 123.

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145. (new) The antibody of Claim 144, wherein binding of said antibody to said carboxylated glycan is reduced by a carboxylated glycan, and said binding is not reduced by a carboxylate-neutralized glycan selected from an alkyl esterified glycan or alkylamidated glycan.

146. (new) The antibody of Claim 145, wherein said alkyl esterified glycan is CONH-methyl-glycan.

147. (new) The antibody of Claim 145, wherein said alkylamidated glycan is a methylamidated glycan.

148. (new) The antibody of Claim 147, wherein said antibody is monoclonal.

149. (new) The antibody of Claim 148, wherein said monoclonal antibody is an IgG antibody.

150. (new) The antibody of Claim 149, wherein said monoclonal IgG antibody is mAbGB3.1.